

Social Pain and Hurt Feelings

Geoff MacDonald

University of Toronto

To appear in P. J. Corr & G. Matthews (Eds.)

Cambridge Handbook of Personality Psychology

Author's Note

Thanks to Nathan DeWall, Marc Fournier, Tara Marshall, and Terry Borsook for their helpful suggestions. This work was supported by a Social Sciences and Humanities Research Council of Canada grant. I am grateful to the Canadian government for their support of research in the social sciences.

Physical injury may not be the only cause of pain. In a striking case study, Danziger and Willer (2005) describe a 32 year-old woman diagnosed with congenital insensitivity to pain (a disruption of pain sensation capacity) who had never experienced physical pain despite a life that included fractures, burns, appendicitis, and two anesthetic-free births. However, not long after her younger brother died in a tragic automobile accident, this woman suffered an intense, days-long headache – her first and only experience of pain. Although an extreme example, this case is consistent with recent research suggesting that threats to social connection may stimulate painful feelings, or social pain, via some of the same physiological mechanisms activated by physical injury.

In this chapter, my goal is to examine whether a better understanding of the experience of hurt feelings can be achieved by conceptualizing this emotion as another form of such social pain. I will begin by providing the basis for construing hurt feelings as genuinely painful, including definitions of relevant terms, evidence for functional overlap between social and physical pain, and arguments for considering hurt feelings as a discrete emotional state. Next, I will examine research on the causes of hurt feelings, concluding that *social injury*, or damage to beliefs about the availability of social support, leads to such hurt. I will then explore documented reactions to hurt feelings including surprise and confusion, relational distancing, conflict de-escalation tactics, and the pursuit of social connection. This constellation of reactions suggests an inherent approach/avoidance conflict motivated by hurt that becomes apparent in research on individual differences in sensitivity to hurt feelings. Finally, I will briefly note some

implications for future research of framing reactions to hurt feelings in approach/avoidance terms.

Hurt Feelings as a Form of Emotional Pain

Pain Affect and Emotional Pain

Emotional pain can be as excruciating as physical pain. For example, individuals who were asked to relive the pain from a past instance of betrayal rated that pain (using the McGill Pain Index) at levels equivalent to cancer patient norms (Chen, Williams, Fitness, & Newton, 2007). The experience of physical pain involves two distinguishable physiological systems (e.g., Craig, 1999; Price, 2000). The *pain sensation* system involves receptors at the site of physical injury that collect information about the nature of the damage (e.g., cutting or burning) and communicate this information to the brain for further processing. The *pain affect* system is associated with the emotional and motivational component of pain, and has been argued to underlie the experience of emotional pain (Eisenberger & Lieberman, 2004; MacDonald & Leary, 2005a; Panksepp, 1998). Pain affect is the experience of discomfort and urgent desire to escape a harmful stimulus that frequently accompanies pain sensation. Because pain affect is separable from pain sensation, any number of inputs could theoretically stimulate painful feelings via connection to pain affect mechanisms. Shortly, I will review evidence that social exclusion is one such input.

Emotional Pain, Social Pain, and Hurt Feelings

Before reviewing the evidence, it is important to be clear on some key terms. As used in this chapter, *emotional pain* refers to the activation of pain affect by any stimulus other than physical injury. *Social pain* refers to the activation of pain affect in response

to threats to, or losses of, social connection. *Hurt feelings* are a subtype of social pain that are experienced specifically in response to perceptions of *social injury*, or threats to beliefs about one's potential for recruiting social support. I will expand on the concept of social injury later, but for now, the distinction between social pain and hurt feelings can be highlighted through an example provided by Leary and Springer (2001). They note that the death of a loved one may cause tremendous social pain, but is unlikely to cause hurt feelings.

Evidence for Overlap Between Social and Physical Pain

Recently, Mark Leary and I (2005a) reviewed evidence supporting the overlap between social and physical pain. We found that injury-related terms such as hurt and heartbreak are used to describe responses to social exclusion across multiple languages and cultures. We also found that a number of individual differences including extraversion, anxiety, depression, aggressiveness, and perceived social support are related similarly to social and physical pain (e.g., Gatchel & Weisberg, 2000). Examination of nonhuman animal research provided evidence that opioid and oxytocin neuroendocrine systems as well as the periaqueductal gray brain structure are involved in response to both social separation and physical injury (e.g., Panksepp, 1998). We also noted Eisenberger, Lieberman, and Williams' (2003) research with human participants demonstrating activation of the dorsal anterior cingulate cortex (ACC) and right ventral pre-frontal cortex (PFC) in response to social exclusion. These brain areas have been shown to be specifically involved in the processing of pain affect (e.g., Rainville, Duncan, Price, Carrier, & Bushnell, 1999).

Since our review, more evidence has appeared supporting the link between social and physical pain. DeWall, MacDonald, Webster, Tice, and Baumeister (2007) reasoned that if emotional pain is processed using physical pain mechanisms, then analgesic drugs may diminish hurt feelings. Participants were randomly assigned to take acetaminophen or a placebo daily for 3 weeks and report each day on the extent to which they experienced hurt feelings. By day 15, those taking the pain-killer reported significantly lower daily hurt feelings than those taking placebo, an effect that grew stronger each day to the end of the study.

Although pain often results from physical injury, more severe injury can lead to decreased pain sensitivity, or analgesia. Analgesia is functional in cases of severe injury as the distraction caused by severe pain could impair effective escape from a threatening situation (Eccleston & Crombez, 1999). MacDonald and Leary (2005a) reviewed evidence from nonhuman animal research that social separation also leads to analgesia (e.g., Konecka & Sroczyńska, 1990). This research has now been extended to humans. DeWall and Baumeister (2006) demonstrated that participants told they would have a lonely future experienced decreased sensitivity to physical pain.

Finally, Eisenberger, Jarcho, Lieberman, and Naliboff (2006) demonstrated a correlation between social distress and perceptions of physical pain among participants who were not included in an on-line ball toss game (due to ostensible technical difficulties). This correlation was not found among those who were included in the game, nor, surprisingly, among those who could participate but were ignored by the other two players. The authors suggest this latter finding may have resulted from the activation of affect regulation mechanisms triggered by such blatant social exclusion. Nevertheless,

it is clear that substantial evidence supporting the link between social and physical pain is mounting.

Hurt Feelings as a Discrete Emotion

Given the demonstrated link between social and physical pain, it appears reasonable to suggest that hurt feelings may result from the activation of pain affect (MacDonald & Leary, 2005b). As a form of emotional pain, hurt feelings should be discrete from other emotions, although this point is not universally accepted. For example, Vangelisti (2001) describes hurt as a blend of fear and sadness. Certainly, hurtful episodes do more than just hurt – reports of hurt feelings are usually accompanied by reports of other emotions including fear, sadness, anger, anxiety, and shame (Feeney, 2005; Leary & Springer, 2001; Sanford & Rowatt, 2004).

Although hurtful events may trigger a range of emotional states, Leary and Springer (2001) have provided evidence that the experience of hurt feelings is not reducible to other emotions. In one approach, Leary, Springer, Negel, Ansell, and Evans (1998) simultaneously regressed a number of emotional states reported to result from hurtful episodes on reports of hurt feelings. This analysis showed that hurt feelings were associated with higher levels of general distress and lower levels of generic positive affect, but were not associated with more specific emotions including anxiety, hostility, and guilt. In another approach, when controlling for a comprehensive set of negative emotions, a significant association between two separate measures of hurt feelings remained (Leary & Springer, 2001). These results suggest that measures of hurt feelings cannot be reduced to measures of other emotional states.

These findings are consistent with the notion that there is a unique emotional aspect to hurt feelings that may be explainable in terms of pain affect, although further research is needed to more strongly support this conclusion. Should emotional pain ultimately gain recognition as a discrete emotion, research will be needed to understand the antecedents, consequences, and functional value of what could be one of our most evolutionarily primitive feeling states. The following sections begin an exploration of these issues by examining the causes and consequences of hurt feelings.

Social Injury: Exploring the Causes of Hurt Feelings

Feelings of Rejection as a Cause of Hurt Feelings

MacDonald and Leary (2005a) argue that pain affect evolved to become associated with social exclusion because belonging is crucial for survival and reproduction among social animals. Hurt feelings are clearly associated with feelings of rejection (Leary et al., 1998). For example, Buckley, Winkel, and Leary (2004) demonstrated experimentally that rejecting messages are more hurtful than accepting or neutral messages. When asked to describe hurtful episodes, participants in another study most commonly listed incidents of criticism, betrayal, and explicit rejection (Leary et al., 1998). Messages perceived as most hurtful are those delivered by close others (Leary et al., 1998; Vangelisti, Young, Carpenter-Theune, & Alexander, 2005), perceived to be intentionally hurtful (Feeney, 2004), or perceived as more humiliating and denigrating to a relationship (Vangelisti et al., 2005). Such messages appear to provide the clearest signs of rejection in the most important relationships, and thus may be perceived as especially threatening.

Loss of Social Reward as a Cause of Hurt Feelings

There are a number of reasons why social exclusion may be perceived as threatening, perhaps none more important than the concern that a rejection may reflect one's generally low social standing. However, exclusion from a particular relationship involves not just the presence of threat but also the loss of important rewards. For example, feelings of intimacy and validation can be considered some of the primary rewards of romantic relationships. These rewards are lost if the relationship dissolves, potentially leading to immense distress. Further, the frustration caused by a failure to obtain strongly desired relationship rewards, such as in unrequited love, can also be highly distressing (Baumeister, Wotman, & Stillwell, 1993). Apart from the threatening aspects of social exclusion, evidence suggests that such frustration or lost reward may be a painful aspect of rejection.

Gray (1987) argued for a neurological overlap between fear and frustration. This formulation suggests that the unexpected loss of or failure to obtain a desired reward may promote similar emotional experiences as the presence of a threatening stimulus, including pain. For example, athletes may describe defeat in a championship match as painful despite the absence of any obvious threat to their well-being. Work with nonhuman animals has suggested that reward loss promotes responses similar to those associated with painful stimuli. For example, an unexpected downshift in degree of sucrose in a sucrose solution facilitates escape and startle responses in rats (Papini, Wood, Daniel, & Norris, 2006). Also, similar to the analgesic response to physical injury and social isolation, rats show decreased pain sensitivity following reward loss (Mustaca & Papini, 2005). Papini et al. (2006) argue that these effects of reward loss are mediated by pain affect mechanisms. This claim has been supported in research with humans

showing that reward loss is associated with activation in brain regions associated with pain affect (i.e., ACC and PFC; Abler, Walter, & Erk, 2005).

Research suggests that the failure to receive positive behavior from others (i.e., *non-inclusion*) may be painful in a fashion similar to the threats caused by negative behavior from others (i.e., *rejection*). For example, being ignored or ostracized (where no threats are made but social rewards are withheld) is associated with hurt feelings (Leary & Springer, 2001; Williams, 2000). Further, if rejection and non-inclusion have independent influences on hurt feelings, events that combine both social threat and loss of social reward should be most hurtful. Buckley et al. (2004) randomly assigned participants to receive a constantly negative evaluation from another “participant” (actually a computer program) or an evaluation that changed from positive to negative over time. Participants in the acceptance-to-rejection condition reported higher levels of hurt feelings than those in the constant rejection condition. Although feelings of rejection did not differ between the two conditions, those in the acceptance-to-rejection condition did report a higher desire to be accepted by the other participant. These data suggest that a loss of social reward in addition to the presence of rejection threat led to especially high levels of hurt feelings.

An interesting potential application of the notion that hurt feelings arise from loss of social reward involves infidelity. Feeney (2004) found the most hurtful episodes in romantic relationships involved infidelity. When asked which would hurt more, sexual or emotional infidelity (i.e., a partner having sex vs. falling in love with a rival), people are more likely to choose emotional infidelity (Green & Sabini, 2006; Sabini & Green, 2004). Sabini and Green (2004) suggest that emotional infidelity provides a stronger

signal that the cheating partner devalues the relationship, but do not clarify why emotional infidelity signals greater devaluation. One possibility is that love is seen as a more limited resource than sex, such that emotional infidelity has the potential to lead to a stronger sense of loss. Whereas falling in love with a rival necessarily means sharing emotional intimacy, sexual infidelity need not involve these deeper feelings. To the extent that romantic love is seen as a shared bond between only two people, intimacy becomes a zero-sum game. That is, a partner's emotional infidelity necessarily reduces intimacy in the original relationship in a fashion that sexual infidelity may not. As a result, even if emotional and sexual infidelity feel equally threatening, emotional infidelity appears to involve a stronger and more irrevocable sense of lost reward, possibly explaining why it may be more hurtful.

Integrating the Causes of Hurt Feelings

How can the root cause of hurt feelings be described most succinctly? Leary and Springer (2001) argue that the primary cognitive appraisal underlying hurt feelings is relational devaluation, or a sense that the transgressor does not view her or his relationship with the victim to be as valuable, close, or important as the victim desires. In Leary et al.'s (1998) research, 99% of hurtful events were evaluated as involving instances of relational devaluation. Certainly, then, relational devaluation can contribute to hurt feelings.

Vangelisti et al. (2005) argue that hurt feelings may not always be caused by relational factors. These authors argue that participants in their research who were asked to describe the causes of past hurtful events frequently listed non-relational issues. They specifically note threats to the self-concept as an exemplar of a common non-relational

cause. However, self-esteem, or the summary evaluation of one's self-concept, is closely tied to feelings of acceptability to others (Leary & MacDonald, 2003) and may have evolved specifically to provide an internal metric of social value (Leary, Tambor, Terdal, & Downs, 1995). In Leary et al.'s (1998) research, intensity of hurt feelings correlated strongly with internalizing the hurtful episode, suggesting that hurt feelings can reflect accepting negative social feedback as an accurate portrayal of the self-concept.

However, trait self-esteem provides information about acceptability to others across many relationships rather than in one specific relationship (MacDonald, 2007a). Thus, Vangelisti et al.'s (2005) argument highlights the idea that hurt feelings may be especially strong when the event is interpreted as having implications across many relationships. The most hurtful messages may be those that connote threats to multiple sources of connection (e.g., "Nobody loves you"). In fact, most of the hurtful incidents in Leary et al.'s (1998) study were rated as having direct ramifications for the individuals' social desirability and such incidents were rated as the most hurtful. Those incidents that were not directly related to social desirability involved attributes that have important implications for social acceptance (e.g., intelligence, attitudes).

Feeney (2005) provides a different challenge to the relational devaluation perspective. In examining descriptions of hurtful events in romantic relationships, Feeney found a substantial portion of events that involved jealousy and distrust on the part of the transgressor (e.g., checking on a partner's whereabouts) or acts of concealment intended to protect the victim (e.g., holding back gossip about a partner). Although provoking hurt, these incidents could not be explained in terms of relational devaluation because they signaled that the transgressor did indeed care deeply about the victim.

Feeney (2005) frames these results in attachment terms, suggesting that hurt feelings can result from threats to the belief that one is worthy of love (as in instances of relational devaluation) and/or from threats to the belief that others are dependable sources of support (as in distrusting behavior). Hurt feelings arising from a partner's jealousy are an interesting case in that they may provide both a threat of rejection (by providing a signal that one is not trustworthy) and a loss of reward (by portraying one's partner as not as trusting as hoped). Feeney (2005) thus describes hurt feelings as arising from a sense of *personal injury*, or damaged cognitive models of self as lovable and/or others as dependable.

Overall, Feeney's (2005) analysis appears to capture the widest range of hurtful events, accounts for both social threat and loss of social reward as causes of hurt feelings, and can accommodate the influence of transgressions that have implications across relationships (via influence on general cognitive models). One way to frame Feeney's conclusions is that hurt feelings arise when one's perceived ability to find comfort through relationships is diminished. Both threats to the belief that one is worthy of love and to the belief that relational partners can be counted on create disruptions to one's certainty that support can be found when needed. Perhaps, then, it is violence done to expectations of support, now and in the future, that is the injury that leads to hurt feelings.

One advantage of this explanation is that it can answer the question of why losing someone to death hurts but does not create hurt feelings (Leary & Springer, 2001). Death may cause lost access to a particular relational partner, but if it is not a volitional act it cannot speak to one's potential to find future support. Hurt feelings may only arise when

events carry messages relevant to one's future social prospects. For this reason, I prefer the term *social injury* rather than personal injury, as I believe this term highlights the relational nature of hurt feelings.

Reactions Associated With Hurt Feelings

Surprise and Confusion

Eisenberger and Lieberman (2004) describe pain as a system that signals the detection of harmful stimuli, recruiting attention and coping resources to minimize exposure to threat. They argue that the role of the ACC in pain is as a mechanism that detects discrepancies, such as those between desired and actual conditions, using feelings of pain as an alarm or warning signal. This pain signal disrupts attention, freeing it to focus on the source of threat (Eccleston & Crombez, 1999). If the social pain of hurt feelings functions to alert individuals to sources of social injury, then hurt feelings should trigger an attention-orienting response.

One marker of attention disruption could be a sense of surprise, which is often conceptualized as an orienting response but not an emotion (Feeney, 2005). In open-ended descriptions of responses to hurtful events, terms connoting surprise (e.g., confused) were frequently mentioned (Feeney, 2005). The association between hurt feelings and the orienting response of surprise suggests that hurt may be the initial reaction to cognitive appraisals of social injury. Hurt may draw attention to the source of injury, motivating further processing to delineate the meaning of the hurtful event. For example, one participant in Leary et al.'s (1998) study wrote, "At first I was surprised. Then I wanted to cry...A few minutes later I was furious at him" (p. 1235). Another

participant wrote, “Eventually I became angry, but initially it was just plain painful” (Leary et al., 1998, p. 1235).

The role of confusion in hurt feelings may help explain why social pain often lingers. For example, 90% of the hurtful events described by participants in Leary et al.’s (1998) study still hurt even though the majority occurred a year or more past. Chen et al. (2007) showed that reliving memories of betrayal led to considerably more experienced pain than reliving memories of physical injury, despite the fact that participants rated the original social and physical injuries as equally painful. Strongly hurtful events like the breakdown of a marriage are complicated and multi-faceted, touching on core aspects of the self that are extremely sensitive and possibly resistant to change. Such events can take months or years to process and fully integrate with one’s views of the self as lovable and of others as dependable. As a result, social pain may remain as a signal that beliefs about the accessibility of support are in need of repair. In this sense, although distressing, lingering social pain may be functional in promoting cognitive reorganization to make sense of social exclusion and its implications for future support. This analysis also suggests that deeply hurtful events such as divorce may leave a lasting sense of loss that may cause lingering pain until an alternate means for satisfying belongingness needs is found.

Distancing From the Source of Threat

Vangelisti (2001) argues that the core feature distinguishing hurt from other emotional states is vulnerability. Much of the research on hurt feelings has focused on how this sense of vulnerability heightens perceptions of risk for further harm and thus motivates emotional distancing from the perpetrator. Experimental research has shown

that excluded individuals respond with higher levels of aggression (e.g., Buckley et al., 2004) and lower levels of prosocial behavior (Twenge, Baumeister, DeWall, Ciarocco, & Bartels, 2007). In Leary et al.'s (1998) research, higher levels of hurt feelings were associated with higher levels of expressed anger and verbal attacks. Such aggressive and antisocial responses appear to represent a devaluation of the relationship that facilitates emotional distance and reduced vulnerability to further pain (Murray, Holmes, & Collins, 2006). Indeed, 67% of victims reported that their relationship with the perpetrator was weakened temporarily by the hurtful event and 42% reported the relationship was damaged permanently. Further, features of a hurtful event perceived to signal an increased risk of continued or increased harm are especially likely to lead to distancing (Vangelisti, 2000; Vangelisti et al., 2005). Hurtful messages perceived to communicate relational denigration or the perception of an intrinsic flaw in the victim, to be intentionally hurtful, or to be a result of the transgressor's self-centered motives or stable personality traits led to especially strong distancing tendencies.

Threat De-Escalation

Hurt feelings may also help increase protection from social injury by motivating responses that reduce threat at its source. Sanford and Rowatt (2004) describe hurt, as well as other feeling states such as sadness, as *soft emotions* that motivate the pursuit of comfort, support, and assistance from others. These authors suggest that soft emotions can facilitate relationship functioning by eliciting empathy and understanding, especially from close others. The expression of hurt can de-escalate tense relationship situations by signaling vulnerability, need, or weakness (Sanford & Rowatt, 2004). For example, in Leary et al.'s (1998) research, more intense hurt feelings were associated with more

crying by victims of hurtful episodes. Seeing a partner's or friend's tears may well lead an individual to restrain attacks thus sparing further social injury.

Pursuing Social Connection

Hurt feelings may also induce an approach-oriented strategy of seeking social connection. Maner, DeWall, Baumeister, and Schaller (2007) argue that the hurt caused by social injury should lead to a desire for new avenues of social connection. In general, they argue that when a goal is blocked efforts to find a new path to that goal should be energized. In fact, experiencing and expressing hurt may facilitate unique opportunities for pursuing intimacy (Sanford & Rowatt, 2004). Intimacy in close relationships is built on self-disclosure, particularly when that disclosure is met by one's relational partner with responsiveness (Reis & Patrick, 1996). Exposing core vulnerabilities through the expression of hurt creates the opportunity to share important aspects of the self that may then be validated. For example, L'Abate (1977) argued that the most intimate level of relationship conflict involves sharing the hurt that underlies anger. Frey, Holley, & L'Abate (1979) found that couples evaluated conflict resolution involving the expression of hurt to be especially intimate.

Research supports the notion that hurt individuals pursue social connection in response to a hurtful episode. Many participants in Leary et al.'s (1998) study described seeking out new relationships in response to a hurtful event (Leary & Springer, 2001). Ostracism has been shown to lead to increased conformity (Williams, Cheung, & Choi, 2001) and cooperation (for women only; Williams & Sommer, 1997), suggesting increased desire for social connection. Social exclusion has also been shown to lead to increased interest in a friend introduction service and more positive evaluations of

potential interaction partners (Maner et al., 2007). Importantly, however, the prosocial behavior demonstrated by Maner and colleagues was neither directed at the excluder nor toward those with whom no future interaction was possible. In addition, individuals chronically fearful of rejection did not appear strongly motivated to seek connection following exclusion. These findings suggest that hurt individuals seek support only from safe and available sources.

Approach/Avoidance Conflict

Conflicting Motives

Overall, this review of the reactions associated with hurt feelings suggests that hurt promotes potentially conflicting approach and avoidance action tendencies. Maner et al. (2007) suggest that socially excluded individuals may be, “vulnerable but needy and those two feelings may push in opposite directions” (p. 52). Those whose feelings are hurt appear motivated to avoid closeness, especially with the hurtful individual. At the same time, hurt individuals may be motivated to reveal vulnerabilities and pursue social connection to soothe their sense of injury. Although Maner et al.’s (2007) work in the lab suggests that hurt individuals may attempt to forge connections with new relational partners, real-world dynamics may constrain this tendency. When the hurtful individual is also one’s primary source of social support (e.g., a romantic partner) an especially strong approach/avoid conflict focused on the source of hurt may be experienced. Given that such approach/avoid conflicts are the primary source of anxiety (Gray & McNaughton, 2000), this dynamic may help explain the relation of hurt feelings with anxiety (see also Corr, 2005).

A more direct source of evidence for the simultaneous motivations of desire for relational distance (avoidance) and desire for connection (approach) comes from Gardner and colleagues' research on the Social Monitoring System (Gardner, Pickett, & Brewer, 2000; Gardner, Pickett, Jefferis, & Knowles, 2005). Heightened desire to avoid social threats should lead to greater sensitivity to negative social information (e.g., scowls) whereas heightened desire to approach social rewards should lead to greater sensitivity to positive social information (e.g., smiles). Both social exclusion (Gardner et al., 2000) and loneliness (Gardner et al., 2005) are associated with improved memory for both positive and negative social information but unrelated to memory for non-social information.

Individual Differences in Hurt Feelings Proneness

Individual difference research provides more nuanced evidence for the conflicting approach and avoidance motivations associated with hurt feelings. Leary and Springer's (2001) measure of hurt feelings proneness (HFP) assesses the ease with which people experience hurt feelings. This scale is associated with the frequency with which people's feelings are hurt but not the intensity of specific hurtful episodes (Leary & Springer, 2001). In this sense, HFP may be thought of as a measure of threshold for social pain, but not a predictor of degree of experienced hurt.

In a study investigating sensitivity to social threat and reward, participants expected to engage in a social interaction after completing a number of questionnaires including HFP (MacDonald, 2007b). The key scale in this package was a measure of perceived social threat (e.g., "I'm worried what my interaction partner will think of me") and perceived social reward (e.g., "This interaction is a fun opportunity"). Higher HFP

was associated with both higher perceptions of potential threat and higher perceptions of potential reward. Again, hurt feelings appear to be associated with simultaneous approach and avoidance motivations.

HFP is related to other individual difference measures that reflect both sensitivity to social threat and sensitivity to social reward. HFP correlates strongly and positively with neuroticism, anxious attachment, fear of negative evaluation, and self-reported behavioral inhibition system activity (Leary & Springer, 2001; MacDonald, 2007b). These findings reflect an association between sensitivity to both hurt feelings and threat. However, HFP is also related positively to the need to belong (Leary & Springer, 2001; MacDonald, 2007b), a variable reflecting one's appetite for social connection. Those higher in HFP have also been shown to place more value on true friendship and mature love (Leary & Springer, 2001). Thus, those more prone to hurt feelings appear to have stronger motivation to engage with social rewards.

The relations of the attachment dimensions of anxiety and avoidance with HFP are of particular interest. Anxiously attached individuals tend to be hypervigilant for rejection cues and seek closeness to soothe emotional distress whereas avoidantly attached individuals are uncomfortable with intimacy and avoid acknowledging distress (Mikulincer & Shaver, 2002). Anxious attachment is associated with higher levels of both perceived social threat and perceived social reward (MacDonald, 2007b). Whereas the relation between anxious attachment and perceived social threat is mediated by fear of negative evaluation, the relation between anxious attachment and perceived social reward is mediated by HFP. Sensitivity to hurt feelings may play an important role in

anxiously attached individuals' belief that they can find relief from emotional distress through social connection.

Higher levels of avoidant attachment are associated significantly with lower levels of perceived social reward and marginally with higher levels of perceived social threat (MacDonald, 2007b). The negative relation between avoidant attachment and perceived social reward is partially mediated by HFP. In addition, HFP acts as a suppressor variable in the positive relation between avoidant attachment and perceived social threat. That is, were it not for their tendency to be less sensitive to hurt feelings, avoidantly attached individuals would perceive higher levels of social threat. This pattern of findings suggests that avoidantly attached individuals distance themselves from social pain in order to avoid engaging with social threat. However, the cost of down-regulating sensitivity to hurt feelings appears to be a decreased sensitivity to potentially rewarding social opportunities.

Conclusion

This review has suggested that hurt feelings are the experience of pain affect triggered by perceptions of threat to cognitive models of support availability. Hurt feelings appear to promote both increased defense against social threat and increased drive for social connection. Thus, hurt feelings have the potential to create intense approach/avoidance conflict. This social reward/threat framework suggests that the traditional construal of belongingness as a uni-dimensional construct ranging from inclusion to exclusion may not be correct. Instead, perceptions of social connection may involve independent assessments of the degree of rejection (i.e., social threat) and the degree of inclusion (i.e., social reward). Upon reflection, such a distinction appears

easily recognizable in daily life. For example, a wordless interaction with a store clerk may not lead to warm feelings of intimacy but neither should it lead to feelings of rejection. Conversely, a potential romantic partner who “just wants to be friends,” conveys simultaneous messages of inclusion and rejection.

One of many remaining questions is the relative extent to which the presence of social threat and the loss of social reward each contribute to feelings of hurt. In addition to such quantitative comparisons, researchers are beginning to be mindful of qualitative differences in reactions to rejection and non-inclusion. Molden, Lucas, Gardner, Dean, and Knowles (2007) argue that being actively rejected (which provides a clear signal of social threat) should be associated with motivation to prevent further social losses whereas being ignored (which provides a signal of lack of social reward) should be associated with motivation to promote social gains. Consistent with these hypotheses, these researchers showed that experiences of rejection led to higher levels of social withdrawal whereas experiences of being ignored led to higher levels of social engagement.

As noted, the potentially conflicting approach and avoidance tendencies described in this review are manifest in trait sensitivity to hurt feelings. This suggests that individuals prone to hurt feelings may experience chronic sensitivity to social threat and social reward. Potential implications of such heightened awareness of positive and negative social cues may include chronic relationship ambivalence and anxiety, susceptibility to influence by situationally salient social cues, and relatively unstable evaluations of relational partners. More generally, this review suggests that the approach/avoidance framework provided by Gray and McNaughton's (2000) threat

defense system model may be helpful in framing research on the regulation of social behavior. It appears increasingly clear that one of the most important proximal motivators of such social approach and avoidance tendencies is the genuine feeling of pain that helps protect our connections to others.

References

- Abler, B., Walter, H. & Erk, S. (2005). Neural correlates of frustration. *Neuroreport: For Rapid Communication of Neuroscience Research*, 16, 669-672.
- Baumeister, R. F., Wotman, S. R. & Stillwell, A. M. (1993). Unrequited love: On heartbreak, anger, guilt, scriptlessness, and humiliation. *Journal of Personality & Social Psychology*, 64, 377-394.
- Buckley, K. E., Winkel, R. E. & Leary, M. R. (2004). Reactions to acceptance and rejection: Effects of level and sequence of relational evaluation. *Journal of Experimental Social Psychology*, 40, 14-28.
- Chen, Z., Williams, K. D., Fitness, J., & Newton, N. C. (2007). When hurt won't heal: Exploring the capacity to relive social and physical pain. *Manuscript under review*.
- Corr, P. J. (2005). Social exclusion and the hierarchical defense system: Comment on MacDonald and Leary (2005). *Psychological Bulletin*, 131, 231-236.
- Danziger, N. & Willer, J. C. (2005). Tension-type headache as the unique pain experience of a patient with congenital insensitivity to pain. *Pain*, 117, 478-483.
- DeWall, C. N., & Baumeister, R. F. (2006). Alone but feeling no pain: Effects of social exclusion on physical pain tolerance and pain threshold, affective forecasting, and interpersonal empathy. *Journal of Personality and Social Psychology*, 91, 1-15.
- DeWall, C. N., MacDonald, G., Webster, G. D., Tice, D. M., & Baumeister, R. F. (2007). Acetaminophen reduces psychological hurt feelings over time. *Manuscript under review*.

- Eccleston, C. & Crombez, G. (1999). Pain demands attention: A cognitive-affective model of the interruptive function of pain. *Psychological Bulletin*, 125, 356-366.
- Eisenberger, N. I., Jarcho, J. M., Lieberman, M. D., & Naliboff, B. D. (2006). An experimental study of shared sensitivity to physical pain and social rejection. *Pain*, 126, 132-138.
- Eisenberger, N. I. & Lieberman, M. D. (2004). Why rejection hurts: A common neural alarm system for physical and social pain. *Trends in Cognitive Sciences*, 8, 294-300.
- Eisenberger, N. I., Lieberman, M. D. & Williams, K. D. (2003). Does rejection hurt? An fMRI study of social exclusion. *Science*, 302, 290-292.
- Feeney, J. (2004). Hurt feelings in couple relationships: Towards integrative models of the negative effects of hurtful events. *Journal of Social and Personal Relationships*, 21, 487-508.
- Feeney, J. (2005). Hurt feelings in couple relationships: Exploring the role of attachment and perceptions of personal injury. *Personal Relationships*, 12, 253-272.
- Frey, J., Holley, J. & L'Abate, L. (1979). Intimacy is sharing hurt feelings: A comparison of three conflict resolution models. *Journal Marital and Family Therapy*, 5, 35-41.
- Gardner, W., Pickett, C. L. & Brewer, M. B. (2000). Social exclusion and selective memory: How the need to belong influences memory for social events. *Personality and Social Psychology Bulletin*, 26, 486-496.

- Gardner, W. L., Pickett, C. L., Jefferis, V. & Knowles, M. (2005). On the outside looking in: Loneliness and social monitoring. *Personality and Social Psychology Bulletin*, 31, 1549-1560.
- Gatchel, R. J., & Weisberg, J. N. (Eds.). (2000). *Personality characteristics of patients with pain*. Washington, DC: American Psychological Association.
- Gray, J. A. (1987). *The psychology of fear and stress*. Cambridge, UK: Cambridge University Press.
- Gray, J. A. & McNaughton, N. (2000). *The neuropsychology of anxiety*. New York: Oxford University Press.
- Green, M. C. & Sabini, J. (2006). Gender, socioeconomic status, age, and jealousy: Emotional responses to infidelity in a national sample. *Emotion*, 6, 330-334.
- Konecka, A. M. & Sroczyńska, I. (1990). Stressors and pain sensitivity in CFW mice: Role of opioid peptides. *Archives Internationales de Physiologie et de Biochimie*, 98, 245 – 252.
- L'Abate, L. (1977). Intimacy is sharing hurt feelings: A reply to David Mace. *Journal of Marriage and Family Counseling*, 1977, 3, 13-16.
- Leary, M. R., & MacDonald, G. (2003). Individual differences in self-esteem: A review and theoretical integration. In M. R. Leary & J. P. Price (Eds.), *Handbook of self and identity* (pp. 401-418). New York, NY: Guilford Press.
- Leary, M. R., & Springer, C. (2001). Hurt feelings: The neglected emotion. In R. M. Kowalski (Ed.), *Behaving badly: Aversive behaviors in interpersonal relationships* (pp. 151-175). Washington, DC: American Psychological Association.

- Leary, M. R., Springer, C., Negel, L., Ansell, E. & Evans, K. (1998). The causes, phenomenology, and consequences of hurt feelings. *Journal of Personality and Social Psychology*, 74, 1225-1237.
- Leary, M. R., Tambor, E. S., Terdal, S. K. & Downs, D. L. (1995). Self-esteem as an interpersonal monitor: The sociometer hypothesis. *Journal of Personality & Social Psychology*, 68, 518-530.
- MacDonald, G. (2007a). Self-esteem: A human elaboration of prehuman belongingness motivation. In C. Sedikides & S. Spencer (Eds.) *The self in social psychology* (pp. 412-456). New York: Psychology Press.
- MacDonald, G. (2007b). The social threat and reward scale. *Unpublished data*.
- MacDonald, G. & Leary, M. R. (2005a). Why does social exclusion hurt? The relationship between social and physical pain. *Psychological Bulletin*, 131, 202-223.
- MacDonald, G., & Leary, M.R. (2005b). Roles of social pain and defense mechanisms in response to social exclusion: Reply to Panksepp (2005) and Corr (2005). *Psychological Bulletin*, 131, 237-240
- Maner, J. K., DeWall, C. N., Baumeister, R. F. & Schaller, M. (2007). Does social exclusion motivate interpersonal reconnection? Resolving the "porcupine problem.". *Journal of Personality and Social Psychology*, 92, 42-55.
- Molden, D. C., Lucas, G. M., Gardner, W. L., Dean, K., & Knowles, M. L. (2007). Motivations for prevention or promotion following social exclusion: Being rejected versus being ignored. *Manuscript under review*.

- Murray, S. L., Holmes, J. G., & Collins, N. L. (2006). Optimizing assurance: The risk regulation system in relationships. *Psychological Bulletin*, 132, 641-666.
- Mustaca, A. E., & Papini, M. R. (2005). Consummatory successive negative contrast induces hypoalgesia. *International Journal of Comparative Psychology*, 18, 255–262.
- Panksepp, J. (1998). *Affective neuroscience: The foundations of human and animal emotions*. London: Oxford University Press.
- Papini, M. R., Wood, M., Daniel, A. M. & Norris, J. N. (2006). Reward loss as psychological pain. *International Journal of Psychology and Psychological Therapy*, 6, 189-213.
- Price, D. (2000). Psychological and neural mechanisms of the affective dimension of pain. *Science*, 288, 1769-1772.
- Rainville, P. D., Duncan, G. H., Price, D. D., Carrier, B. & Bushnell, M. C. (1997). Pain affect encoded in human anterior cingulate but not somatosensory cortex. *Science*, 277, 968-971.
- Reis, H. T., & Patrick, B. (1996). Attachment and intimacy: Component processes. In E. T. Higgins & A. Kruglanski (Eds.), *Handbook of basic processes in social psychology*. New York: Guilford.
- Sabini, J. & Green, M. C. (2004). Emotional responses to sexual and emotional infidelity: Constants and differences across genders, samples, and methods. *Personality and Social Psychology Bulletin*, 30, 1375-1388.

- Sanford, K. & Rowatt, W. C. (2004). When is negative emotion positive for relationships? An investigation of married couples and roommates. *Personal Relationships, 11*, 329-354.
- Shaver, P. R. & Mikulincer, M. (2002). Attachment-related psychodynamics. *Attachment and Human Development, 4*, 133-161.
- Twenge, J. M., Baumeister, R. F., DeWall, C. N., Ciarocco, N. J., & Bartels, J. M. (2007). Social exclusion decreases prosocial behavior. *Journal of Personality and Social Psychology, 92*, 56-66.
- Vangelisti, A. L. (2001). Making sense of hurtful interactions in close relationships: When hurt feelings create distance. In V. Manusov & J. H. Harvey (Eds.), *Attribution, communication behavior, and close relationships: Advances in personal relations* (pp. 38-58). New York: Cambridge University Press.
- Vangelisti, A. L., Young, S. L., Carpenter-Theune, K., & Alexander, A. L. (2005). Why does it hurt? The perceived causes of hurt feelings. *Communication Research, 32*, 443-477.
- Williams, K. D. (2001). *Ostracism: The power of silence*. New York: Guilford Publications.
- Williams, K. D., Cheung, C. K. & Choi, W. (2000). Cyberostracism: Effects of being ignored over the internet. *Journal of Personality & Social Psychology, 79*, 748-762.
- Williams, K. D. & Sommer, K. L. (1997). Social ostracism by one's coworkers: Does rejection lead to loafing or compensation. *Personality and Social Psychology Bulletin, 23*, 693-706.